

YEPINAT'YENVA, A.M.

Recording low-frequency oscillations in seismic prospecting by  
refraction correlation shooting. Trudy Geofiz.no.35:176-191 '56.  
(MIRA 10:1)

(Seismology)

YEPINAT'YEVA, A. M.

49-6-2/21

AUTHOR: Yepinat'yeva, A. M.

TITLE: On reflected waves occurring at angles of incidence greater than the critical angle. (Ob otrazhennykh volnakh voznikayushchikh pri uglakh padeniya, bol'shikh predel'nogo).

PERIODICAL: "Izvestiya Akademii Nauk, Seriya Geofizicheskaya" (Bulletin of the Ac.Sc., Geophysics Series), 1957, No.6, pp. 709-727 (U.S.S.R.)

ABSTRACT: The reflection coefficient for spherical waves at a given angle of incidence equals the reflection coefficient for plane waves and depends on the values of velocity and density on both sides of the boundary and the angle of incidence. For angles of incidence which are less than the critical angle  $i_{lcr}$  (where  $i_{lcr} = \arcsin a_1/a_2$ ;  $a_1$  and  $a_2$  - speeds of longitudinal waves on either side of the boundary) the reflection coefficient for longitudinal plane waves changes uniformly with increasing angle of incidence. The present paper deals with experimental results obtained for waves reflected at angles of incidence larger than the critical angle. Two cases were employed:  $a_2/a_1 = 2.5$  and  $a_2/a_1 = 1.8$ . It is shown that in certain media reflected waves can be detected at distances corresponding to angles of incidence equal to or greater than the critical angle  $\arcsin a_1/a_2$ . Such reflected waves may have amplitudes

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On reflected waves occurring at angles of incidence greater than the critical angle. (Cont.)

which are greater than those of the refracted waves. A rapid change in the reflection coefficient as a function of the angle of incidence may lead to a rapid change in the amplitude and form of the reflected wave with changes of distance from the point of explosion. At some distances a rapid increase in the amplitude of reflected waves may occur which may give the impression that new waves are being formed. Further experimental theoretical studies of the relations between intensities of refracted and reflected waves in different media are necessary.

There are 13 figures and 19 references, 13 of which are Slavic.

SUBMITTED: September 15, 1956.

ASSOCIATION: Institute of Physics of the Earth, Ac.Sc., U.S.S.R.  
(Akademiya Nauk SSSR Institut Fiziki Zemli).

AVAILABLE: Library of Congress

Card 2/2

YEPIKAT'YEVA, A.M.

Transactions of the Institute of Geological Sciences of the Ukrainian  
Academy of Sciences; Geophysical series, vol. 1. 1956. Izv. AN SSSR.  
Ser. geofiz. no. 8:1078-1079 Ag '57. (MLRA 10:8)  
(Geophysics)

YELINAT'YE JA, A.M.

NEW YORK INFORMATION

Abadhiya and SON. Institut Fluidi reali

*Boynitchekaya kurvutia* (Solisio Prospecting) Moscow, Ltd-vo AN SSSR, 1959.  
Jin P. (Series: Ita; Trade, No. 6 /175/) Extra copy inserted. 1,500 copies  
printed.

**Ed.: I.B. Berman, Doctor of Physical and Mathematical Sciences; Ed. of Publishing House: L.I. Bektikova; Tech. Ed.: V.V. Valnova.**

**REMARKS:** The publication is intended for geologists and geophysicists, particularly for those interested in the study of seismic waves and their use in geological prospecting.

CONTENTS. This is a collection of 17 articles published by the Academy of Sciences USSR as the result of an international symposium on the problems of high-frequency acoustics. The first 10 articles present mainly an analysis of theoretical properties of waves. The second group of four articles deals with problems of frequency analysis in solids, solenoids, waves. The remaining articles cover a wide field of problems in solid-body acoustics. The methods of interpretation of dynamic properties of waves, observation of reflected longitudinal waves, design of high-frequency solenoids, laserization, etc. References are given at the end of each article.

### Conclusions

Zaitsev, Yu. V. *Some Connections between the Analysis of Coefficients of Reflection and Refraction of Elastic Waves*

Starobrevlaya, S.P. Methods of Approximate Computation of Theoretical  
Sineograms of Waves Generated in Thin-Layered Media

series, i.e., Change with Distance in the Amplitude of Wave Reflected from a Thin Layer

SAVY, I. S.—Dependence of the Predominant Frequency of Pulse Vibration Position on the Number of Viable Pulse Periods

### Definitely, $E_{\text{eff}}$ Plane Waves

Section, V.B.—Change of Wave Spectra in Grouping the Helicograph Series, 124.—Determining the Spectrum of the Coefficient of Reflection of Longitudinal Waves From a Thin Layer.

Wash. - Dineen, N.J. Averaging the Observational Data for Plotting the Changes in Seismic Wave Amplitude With the Change in Distance in Groups

TABLE 2. Experimental Data on the Effect of the Layer in the Upper Part of the Cross-Section on the Initial Angle of Waves at Various Frequencies

erson, I.S. Some Problems in Interpreting the Holographs of Reflected Exchange Rates

### Station, I.V. Recording the Depth Reflections in Seismic Prospecting

Antonov, I.I. Surface Waves Recorded Near the Source  
Sviridov, O.Y. Investigation of the Surface of a Vortex

### offices

# Karskila, L.I. Problems of the Control of Sensitivity in Electric

land, A.Ye. and N.S. Shmilin. Tech. Symposium 8-1-4-5

trubila, 0.0. Maltichanol. Superionic Pulse Solenactone

NAME: Library of Congress

GAMBURTSEV, Grigoriy Aleksandrovich [deceased]; BERZON, I.S., red.;  
RYABINKIN, L.A., red.; YEPINAT'YEVA, A.M., red.; PASECHNIK,  
I.P., red.; RIZNICHENKO, Yu.V., red.; DOBRYNINA, N.P., vedushchiy  
red.; MUKHINA, E.A., tokhn.red.

[Principles of seismic prospecting] Osnovy seismorazvedki. Izd.2.  
Moskva, Gos.nauchno-tekhn.isd-vo neft. i gorno-toplivnoi lit-ry,  
1959. 377 p. (MIRA 12:4)  
(Prospecting--Geophysical methods) (Seismic waves)

S/049/59/000/03/003/019

AUTHORS: Yepinat'yeva, A. M. and Ivanova, L. A.

TITLE: Use of High-Frequency Filters in Suppression of Multiply Reflected Waves ✓

PERIODICAL: Izvestiya Akademii nauk SSSR, Seriya geofizicheskaya,  
1959, Nr 3, pp 361-371 + 4 plates (USSR)

ABSTRACT: Multiply reflected waves in thick layers were investigated by the Institute of Physics of the Earth, Ac. Sc. USSR, in 1955 and 1957. The authors tested one of the usual "medium-frequency" seismic prospecting stations of SS-26-51-D type ( $f_{\text{reson}} \approx 30-50$  c/s) and a "high-frequency" station VCh-26 ( $f_{\text{reson}} \approx 105$  c/s) developed at the Institute of Physics of the Earth. Use of "high-frequency" stations of VCh-26 type with appropriate filters made it possible to suppress the most intense doubly reflected waves and other multiply reflected

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S/049/59/000/03/003/019

Use of High-Frequency Filters in Suppression of Multiply Reflected Waves

("multiplicity" between 1 and 2) waves, and to obtain much clearer results. Seismograms "a" in Figs 2, 4 and 5 were obtained with the "medium-frequency" apparatus, and seismograms "δ" in Figs 2, 4 and 5, as well as those in Fig 6, were recorded with the "high-frequency" apparatus. There are 10 figures and 9 references, 6 of which are Soviet, 2 English and 1 German.

ASSOCIATION: Akademiya nauk SSSR, Institut fiziki Zemli  
(Ac. Sc. USSR, Institute of Physics of the Earth)

SUBMITTED: December 22, 1957



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YEPINAT'YEVA, A.M.

Some results of analyzing formulas for the amplitude of refracted waves. Trudy Inst.fiz.sem. no.6:7-51 '59.

(MIRA 13:5)

(Seismic waves)

SOV/49-59-7-4/22

AUTHORS: Yepinat'yeva, A. M., Mikhaylova, N. G.

TITLE: The Determination of Different Types of the Multi- Reflected Waves According to Their Kinematic and Dynamic Characteristics

PERIODICAL: Izvestiya Akademii nauk SSSR, Seriya geofizicheskaya, 1959, Nr 7, pp 965-980 and 3 plates (USSR)

ABSTRACT: An experimental division of waves into two classes, multi- and singly reflected, was attempted in a region where intensive multi- reflected waves could be easily obtained. The multi- reflected waves were further divided into fully and partly reflected waves. It was found that the majority of waves were reflected several times from one discontinuity layer,  $H \approx 800$  m deep, the characteristic coefficient of reflection of which was large ( $q \approx 0.3$ ). Also it was established that the waves fully reflected from the discontinuity at  $H = 800$  m were again reflected from a strata characterized by a low velocity coefficient. The method of the vertical hodograph (Fig 1)

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SOV/49-59-7-4/22

The Determination of Different Types of the Multi- Reflected Waves  
According to Their Kinematic and Dynamic Characteristics

was applied to determine the possible waves of multi-reflected wave propagation. It was found that the kinetic characteristics of waves were often inadequate for determining the wave paths. Therefore, another method, based on the amplitude's ratio of multi- and singly-reflected waves was applied (Eqs (2)-(4)). The number of multi-reflected waves recorded simultaneously by two seismographs of different frequencies (Sch - 37 h, VCh - 105 h) were not equal. This could be explained by both the different absorbing properties of strata and by the different absorption of waves of different frequencies. It was also found that the number of singly-reflected waves recorded by the high frequency apparatus was much greater than that recorded by the low frequency one. The experimental data are given in the form of graphs, Figs 1-12. They illustrate the following:

Fig 1 - a vertical hodograph (dotted lines in all figures represent the seismic sampling).

Fig 2 - hodograph of the reflected waves (recorded by the apparatus VCh).

Fig 3 - high frequency (VCh- top) and low frequency

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The Determination of Different Types of the Multi- Reflected Waves  
According to Their Kinematic and Dynamic Characteristics

(Sch - bottom) seismographs.

Fig 4 - relation  $V_{\text{effect}} = f(t_0)$ .

Fig 5 - high frequency (VCh) seismographs.

Fig 6 - method of determining the reflection.

Fig 7 - explanation of determination of the wave type by means of a vertical hodograph.

Fig 8 - vertical, high frequency hodograph as applied for determining the type of wave.

Fig 9 - propagation of multi-reflected waves.

Fig 10 - propagation of singly- and multi-reflected waves in a 3-layer medium.

Fig 11 - vertical hodographs (black circles - VCh data, light circles - Sch data).

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SOV/49-59-7-4/22

The Determination of Different Types of the Multi- Reflected Waves  
According to Their Kinematic and Dynamic Characteristics

Fig 12 - seismogram showing interference of waves. There  
are 12 figures and 16 references, of which 9 are Soviet,  
3 German and 4 English.

ASSOCIATION: Akademiya nauk SSSR, Institut fiziki Zemli (Academy of  
Sciences USSR, Institute of Physics of the Earth)

SUBMITTED: April 16, 1958.

Card 4/4

AUTHOR: Yepinat'yeva, A. M.

SOV/49-59-8-1/27

TITLE: On Resultant Multi-Reflected Waves ✓

PERIODICAL: Izvestiya Akademii nauk SSSR, Seriya geofizicheskaya,  
1959, Nr 8, pp 1089-1102 (USSR)

ABSTRACT: The work is based on the type of multiple reflections (Fig 1) described by Bortfeld (Ref 1) and observed by the author in his research in various localities, such as the Ukraine, where the effective velocity of multiply reflected waves was found, as illustrated in Fig 2 (1 - seismic sounding, 2 - mean curve  $\bar{v} = f(t)$ , 3 - actual data of effective velocity). The waves' characteristics were investigated in three types of stratifications as shown in Fig 3, where a - medium with thin strata, b - stratified medium with density increasing with depth (constant velocity), B - as b but velocity increasing with depth. The number of reflected waves recorded during the time  $T$  ( $T = nt_1$ ) depends on the character of stratification as shown in Fig 4. The minimum number of waves  $N$  reflected  $k$  times in  $n$  strata ( $N_n^{(k)}$ ) can be calculated from Eqs (1) and (2). ✓

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On Resultant Multi-Reflected Waves

SOV/49-59-8-1/27

3 types of

The amplitude  $A$  is derived in relation to stratification. Eqs (3) to (8) and Table 2 are applied to the first type of stratification, Eqs (9) and (10) and Table 3 - second type, Eqs (11) to (15) and Table 4 - third type. The relationship between the amplitude of a resultant wave and that of a single wave,  $A_{\Sigma}^{(K)}/A_{\text{single}}$ , is

illustrated in Fig 5, where the continuous lines are given for the first type and the dashed lines - second type of stratification. The relationship between  $A_{\Sigma}/A_{\text{single}}$

and  $n$  for the first two (curves 1 and 2) types of stratification is shown in Fig 6. Fig 7 gives the function  $A_{\Sigma}/A_{\text{single}} = f(n)$  for the stratifications 2 and

3 in the same scale as in Fig 6. It should be noted that the resultant amplitude in a medium with a greater number of stratifications can be larger than that of a single wave. In the case of a medium with thin strata and a constant coefficient of velocity, the resultant multi-reflected waves become more intense than the single waves.

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On Resultant Multi-Reflected Waves

SOV/49-59-8-1/27

There are 7 figures, 4 tables and 5 references, 4 of which are Soviet and 1 English.

ASSOCIATION: Akademiya nauk SSSR Institut fiziki Zemli  
(Institute of Physics of the Earth, Ac.Sc., USSR) ✓

SUBMITTED: June 26, 1958

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SOV/49-59-11-17/28

AUTHORS: Yepinat'yeva, A. M., and Kosminskaya, I. P.

TITLE: On Seismic Survey in China

PERIODICAL: Izvestiya Akademii nauk SSSR, Seriya geofizicheskaya, 1959, Nr 11, pp 1673-1683 (USSR)

ABSTRACT: The authors describe their visit to China where they were accompanied by Professor Ku Kung-hsu (Director of the Department of Geophysical Methods of Surveying, Institute of Geophysics, Chinese Academy of Sciences), Professor CH'ih Hsin-lin (Director of Seismic Laboratory, Institute of Geophysics, Chinese Academy of Sciences), and young scientists Lin Chung-yen Li Kuei-chen. A. G. Ivanov, from USSR, went also with the authors. They were introduced to the seismic survey going on in the regions Tsaydam, Yuymyn', and Chendu. Some results of observations in these regions are given in the figures, which illustrate the following. Figs 1 and 2 - Seismograms from the region Tsaydam where: a - recorded waves  $t_1$  to  $t_4$  showing different slopes of co-phases, b - displacement of the co-phase axes of wave  $t_2$ ; the axis of wave  $t_1$  is normal. A shallow layer can be distinguished in a

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On Seismic Survey in China

cross section shown in Fig 2. Fig 3 - The layout of detonation points (a) and seismographs (b) in Yu-men region. A seismogram obtained in this case is reproduced in Fig 4. Fig 5 - A system of observation stations for determining discontinuities in a sedimentary and the foundation layers in Yu-men region. Some of the resulting seismograms are reproduced in Fig 6 showing the waves  $t_2$ ,  $t_3$  and multiply reflected and refracted wave  $t_4$ . The wave  $t_1$  corresponds to the surface of foundation. The hodograph of the waves  $t_2$ ,  $t_3$  and  $t_4$  is given in Fig 7. The wave  $t_0$  is also shown in the seismograms, Figs 8 and 9. Fig 10 gives a seismic cross-section in the Su-pei region, where three types of layers can be distinguished: horizontal, lightly sloped and irregular. All the scientific research in the field of seismology is carried out in China by the following three institutions: 1 - Institute of Geophysics, Chinese Academy of Sciences, (Divisions of Seismology under Professor Tsin' Sin'-Lin', Gravimetry, Electro-survey). 2 - Department of Geophysics of the

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On Seismic Survey in China

SOV/49-59-11-17/28

Oil Academy, Ministry of Oil Industry - director  
Professor Wu Weng-po (Divisions: Seismology, Electro-  
survey, Radioactive Methods of Survey, Magnetism,  
General). 3 - Institute of Geophysical Scientific  
Research, Ministry of Geology - director Professor  
Ku Kung-hsu (Divisions: Geophysics, Aero- and Industrial-  
Geophysics, Geochemistry). There are 10 figures and  
4 Soviet references.

ASSOCIATION: Akademiya nauk SSSR, Institut fiziki Zemli  
(Academy of Sciences USSR, Institute of Physics of  
Earth)

SUBMITTED: May 18, 1959 ✓

Card 3/3

GAMBURTSEV, Grigoriy Aleksandrovich, akademik [deceased]; RIZNICHENKO, Yu.V., red.; MOLODENSKIY, M.S., red.; BEHZON, I.S., doktor fiz.-mat.nauk, red.; KEYLIS-BOROK, V.I., doktor fiz.-mat.nauk, red.; LYAPUNOV, A.A., doktor fiz.-mat.nauk, red.; YEPINAT'YEVA, A.M., kand.tekh.nauk, red.; KOSMINSKAYA, I.P., kand.fiz.-mat.nauk, red.; STARODUBROVSKAYA, S.P., mladshiy nauchnyy sotrudnik, red.; BERKGAUT, V.G., red.izd-va; MARKOVICH, S.G., tekhn.red.

[Selected studies] Izbrannye trudy. Moskva, Izd-vo Akad.nauk SSSR, 1960. 461 p. (MIRA 13:7)

1. Chleny-korrespondenty AN SSSR (for Riznichenko, Molodenskiy). (Prospecting—Geophysical methods)

YEPIBAT'YEVA, A. M. ; IVANOV, L. A. ; KUN, V. V. ; SHPORT, L. P.

Some problems relative to seismic prospecting in the Paleozoic  
foundation in Western Siberia. Trudy Inst. fis. zem. no.12;3-67  
'60. (MIRA 13:10)

(Siberia, Western--Seismic prospecting)

YEPINAT'YZVA, A.-M.; KONDRAT'YEV, O.K.

Using high-frequency apparatus in the study of the Paleozoic foundation of Western Siberia. Trudy Inst. fiz. zem. no.12:68-83 '60.

(MIRA 13:10)

(Siberia, Western--Seismic prospecting--Equipment and supplies)

YEPINAT'YEVA, A.M.; HERZON, I.S., otv.red.; NIKOLAYEVA, L.K., red.izd-  
va; GUS'KOV, G.G., red.izd-va; SIMKINA, G.S., tekhn.red.

[Study of longitudinal seismic waves propagating in certain real  
layered media] Izucheniye prodol'nykh seismicheskikh voln,  
rasprostraniayushchikhsia v nekotorykh real'nykh sloistyykh  
sredakh. Moskva, Izd-vo Akad.nauk SSSR, 1960. 261 p.  
(Akademiia nauk SSSR. Institut fiziki Zemli. Trudy, no. 14)  
(MIRA 13:12)

(Seismic waves)

PHASE I BOOK EXPLOITATION

SOV/5118

Yepinat'yeva, A. M.

Izucheniye prodol'nykh seysmicheskikh voln, rasprostranyayushchikhsya v nekotorykh real'nykh sloistykh sredakh (Study of Longitudinal Seismic Waves Propagating in Certain Real Layered Media) Moscow, Izd-vo AN SSSR, 1960. 261 p. Errata slip inserted. 2,500 copies printed. (Series: Akademiya nauk SSSR. Institut fiziki Zemli. Trudy, no. 14 (181))

Resp. Ed.: I. S. Berzon; Eds. of Publishing House: L. K. Nikolayeva and G. G. Gus'kov; Tech. Ed.: G. S. Simkina.

**PURPOSE:** This book is intended for seismologists.

**COVERAGE:** The author discusses the characteristics of refracted waves at interfaces with small velocity differentiation, and refracted and reflected waves registered after the initial point of refracted waves in thick layers. The material is based on experimental studies conducted by the author at the Institut fiziki

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Study of Longitudinal Seismic Waves Propagating (Cont.) SOV/5118

Zemli imeni O. Yu. Shmidt (Institute of Physics of the Earth  
 imeni O. Yu. Shmidt) between 1946-1957. The author thanks  
 I. S. Berzon and T. V. Aleksandrova. There are 84 references:  
 71 Soviet, 8 English, 3 Czech, and 2 German.

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PART I. REFRACTED WAVES IN MEDIA OF SMALL VELOCITY DIFFERENTIATION	
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S/169/61/000/011/017/065  
D228/D304

AUTHORS: Yepinat'yeva, A.M., and Kondrat'yev, O.K.

TITLE: Experimental use of high-frequency apparatus in  
studying the Palaeozoic basement of Western Siberia

PERIODICAL: Referativnyy zhurnal, Geofizika, no. 11, 1961, 21,  
abstract 11A195 (Tr. In-ta fiz. Zemli AN SSSR, no.  
12 (179), 1960, 68 - 83)

TEXT: The possibility was shown for the use of the 80 - 120 c/s  
frequency band for recording waves refracted from boundaries occur-  
ring at a depth of approximately 500 m. Observations with a high-  
frequency apparatus (a B4CC-22 (VChSS-22) station) were conducted  
jointly with observations from a standard middle-frequency appara-  
tus (CC-26-51-A (SS-26-51-D) and '3XO'-1 (EKHO-1) stations). It  
follows from a comparison of seismograms that the recording of the  
HF-stations is rarefied better than the recording of the MF-station  
Thanks to this, a greater number of waves is distinguished on the  
HF-seismograms, the wave changes are reflected more clearly, and

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Experimental use of high-frequency ...

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D228/D304

the extent of the interference zone is substantially reduced. In most cases the reception range of vibrations with the use of the HF-apparatus equalled 3.5 - 4 km; when the MF-equipment was used the reception range amounted to 18 - 20 km. The use of a high-frequency station is more difficult and economically less effective than is the case with middle-frequency stations; this is governed by the need, when working with HF-equipment, to increase the degree of detail of the profile network and observational systems and to select more carefully the stimulation conditions of the vibrations. It is concluded that, when studying the Palaeozoic basement in Western Siberia, middle-frequency stations should be used as the main equipment. Observations with high-frequency apparatus may be expediently carried out in separate areas where a high degree of detail is necessary for the basement study. [Abstractor's note: Complete translation].

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40218

S/169/62/000/007/027/149  
D228/D307

9.9865

AUTHOR: Yepinat'yeva, A. M.

TITLE: Multiple reflected waves

PERIODICAL: Referativnyy zhurnal, Geofizika, no. 7, 1962, 21, abstract 7A143 (V sb. Sostoyaniye i perspektivy razvitiya geofiz. metodov poiskov i razvedki polezn. iskopayemykh, M., Gostoptekhnizdat, M., 1961, 229-236)

TEXT: The conditions of the formation of multiple reflected waves are considered, and their classification is given. The question of the frequency selection of multiple waves is analyzed in detail. As a rule, in connection with the great environmental absorption of high frequencies, the spectrum of multiple waves has a lower frequency than that of a single wave. Therefore, the use of high-frequency filtrations in which the frequency characteristic has a steep left-hand cut often gives good results. In a number of cases when reflection occurs from a thin bed multiple waves are of higher

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Multiple reflected waves

S/169/62/000/007/027/149  
D228/D307

frequency than single ones; then, frequency selection may also  
give positive results. [Abstracter's note: Complete translation.] ✓

Card 2/2

ZVEREV, S.M., red.; MIKHOTA, G.G., red.; POMERANTSEVA, I.V., red.;  
MARGOT'YEVA, M.V., red.; Primali uchastiye: YEPINAT'YEVA,  
A.M., red.; BERSON, I.S., red.; PARKHOMENKO, I.S., red.;  
REYCHERT, L.A., ved. red.; YASHCHURZHINSKAYA, A.B., tekhn. red.

[Deep seismic sounding of the earth's crust in the U.S.S.R.;  
collection of reports] Glubinnoe seismicheskoe zondirovanie zem-  
noi kory v SSSR; sbornik dokladov. Leningrad, Gostoptekhizdat,  
1962. 494 p. (MIRA 15:8)

1. Soveshchaniye po glubinnomu seysmicheskomu zondirovaniyu zem-  
noy kory. 1st, Moscow, 1960. 2. Institut fiziki Zemli Akademii  
nauk SSSR (for Yepinat'yeva, Berzon, Parkhomenko).  
(Earth--Surface) (Seismology)

BERZON, I.S., doktor fiz.-matem. nauk; YEPINAT'YEVA, A.M.; PARIYSKAYA,  
C.N.; STARODUEVSKAYA, S.P.; FREMD, V.M., red. izd-va;  
GOLUB', S.P., tekhn. red.

[Dynamic characteristics of seismic waves in real media]Dina-  
micheskie kharakteristiki seismicheskikh voln v real'nykh sre-  
dakh. [By] I.S.Berzon i dr. Moskva, Izd-vo Akad. nauk SSSR,  
1962. 511 p. (MIRA 16:2)

(Seismic waves)

L 10741-61

ACCESSION NR: AP3002027

BDS/ENT(1)--AFTC/ESD-3--TF

S/0049/63/000/006/0861/0875

AUTHOR: Yepinat'yeva, A. M.; Kuznetsov, V. V.; Ostrovskiy, Yu. A.;  
Khudzinskiy, L. L.

57  
56

TITLE: Some experimental data on the shape of pulses excited by explosions in boreholes 12

SOURCE: AN SSSR. Izv. Ser. geofizicheskaya, no. 6, 1963, 861-875

TOPIC TAGS: borehole explosions, seismic-pulse shapes, seismic-pulse propagation

ABSTRACT: Experimental data have been obtained on the shape of seismic pulses excited by explosions in boreholes. Only the region of elastic deformation was investigated. Near the source, pulse shape changes sharply with distance; at a distance close to 0.75 of the apparent wavelength, the pulse shape becomes established, and there is little change during subsequent pulse propagation. The pulse is brief and its apparent half-periods increase from

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L 10741-63

ACCESSION NR: AP3002027

the beginning of the pulse to the end. For distances up to 5 km the lengthening of the pulse is minor and is expressed in an increase in the apparent pulse half-periods. With an increase in the size of the charge the pulse assumes a lower frequency. Changes in the pulse frequency spectrum are sharper for small charges than for large ones. Orig. art. has: 14 figures and 4 tables.

ASSOCIATION: Institut fiziki Zemli AN SSSR (Institute of Physics of the Earth AN SSSR)

SUBMITTED: 30Jul62      DATE ACQ: 16Jul63      ENCL: 00

SUB CODE: 00      NO REF SOV: 007      OTHER: 009

Card

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YEPINAT'YEVA, A.M.

Repeated pulses during the explosions in boreholes. Izv. AN SSSR.  
Ser.geofiz. no.2:293-300 F '63. (MIRA 16:3)

1. Institut fiziki Zemli AN SSSR.  
(Seismology)

TEN TSZI-VEN'; YEPINAT'YEVA, A.M., rukovoditel' raboty

Dynamic characteristics of seismic waves in real media in  
the case of faults. Izv. AN SSSR. Ser. geofiz. no.3:339-348  
Mr '64. (MIRA 17:3)

YEPINAT'YEVA, A.M., doktor tekhn.nauk

Intensity of multiple reflected waves. Trudy Inst. fiz. Zem.  
no.34:11-28 '64.

Theoretical appraisal of the suppressibility of multiple reflected  
waves by frequency selection. Ibid.:87-104

Multiple satellite-waves. Ibid.:121-132

Use of multiple reflected waves for purposes of interpretation.  
Ibid.:133-151 (MIRA 18:8)

YEPINAT'YEVA, A.M., doktor tekhn.nauk; MIKHAYLOVA, N.G.; SMOLENOVA, Ye.M.

Recordability of exchange reflected waves in areas characterized  
by intense longitudinal multiple waves. Trudy Inst. fiz. Zem.  
no.34:175-189 '64. (MIRA 18:8)

L 12988-66 E.T(1)/EMA(h) GW  
ACC NR: AP6000043

SOURCE CODE: UR/0387/65/000/008/0012/0020

AUTHOR: Cherveni, V. F.; Yepinat'yeva, A. M.; Kosminskaya, I. P.

38

ORG: Institute of Physics of the Earth, Academy of Sciences, SSSR (Institut fiziki Zemli Akademii nauk SSSR)

B

TITLE: Singularities of reflected and head waves around the critical point

SOURCE: AN SSSR. Izvestiya. Fizika Zemli, no. 8, 1965, 12-20

TOPIC TAGS: seismic wave, critical point, ~~hodograph~~ seismic prospecting, seismography

ABSTRACT: The authors give the characteristics of the principal singularities in the kinematics and dynamics of seismic waves near the origin and compare them with experimental data from seismic prospecting and deep seismic sounding. Most of the calculations were done for an interface where the parameters of the ambient medium are close to those of the Mohorovicic discontinuity. Theoretical seismograms in the region of the origin are given together with amplitude spectra of waves for two different types of pulses. These curves showed that there is very little change in the wave spectrum near the point of origin. This stability is confirmed by experimental

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2

UDC: 550.834

I. 12090-66

ACC NR: AP6000043

seismograms and deep seismic sounding amplitude curves. The amplitude curve for complex oscillation has a maximum which is shifted toward greater distances with respect to the geometric point of origin. This shift increases with greater velocity ratios at the interface and with a reduction in the frequency of the recorded oscillations. Travel-time curves are given for the head and reflected waves calculated from exact formulas and from formulas for radial approximations. Practical possibilities for the use of seismic recordings around the critical point are discussed. Orig. art. has: 10 figures.

SUB CODE: 08/ SUBM DATE: 09Sep64/ ORIG REF: 008/ OTH REF: 003

jra

Card 2/2

L 34685-66

ACC NR: AP6025859

SOURCE CODE: CZ/0023/65/009/003/0259/0271

AUTHOR: Yepinat'yeva, A. M.; Cervený, Vlastislav

ORG: [Yepinat'yeva] Institute of Geophysics, AN SSSR, Moscow (Institut fiziki Zemli AN SSSR); [Cervený] Geophysical Institute, Charles University, Prague

TITLE: Reflected waves in the region of the second critical point

SOURCE: Studia geophysica et geodastica, v. 9, no. 3, 1965, 259-271

TOPIC TAGS: critical point, ultrasonic wave

ABSTRACT: The reflection coefficients of plane waves in the region of the second critical angle are analyzed from the point of view of geometric ray theory. The reflection coefficients of plane waves substantially depend on the parameters of the media. This dependence was investigated and it was shown that the position of the maximum of the reflection coefficient beyond the second critical point may be used to determine the velocity of shear waves in the medium below the interface. Examples of experimental materials are given. The authors thank the employees of the Institute of Information Theory and Automation in Prague for the machine calculation of the amplitude of the curves and the employees of the Institute of Computer Mathematics of the Mathematics-Physics Faculty at Charles University in Prague for solving the equations. Orig. art. has: 12 figures and 6 formulas.

[Based on authors' Eng. abst.] [JPRS: 32,859]

SUB CODE: 20 / SUBM DATE: 09Aug64 / ORIG REF: 003 / SOV REF: 006

OTH REF: 001

Card 1/1 OLR



I 04464-67 EWT(1) GW  
ACC NR: AP6021410

SOURCE CODE: UR/0387/66/000/006/0109/0111

AUTHOR: Yepinat'yeva, A. M.

ORG: none

TITLE: Seminar on multiple reflected waves

SOURCE: AN SSSR. Izvestiya. Fizika zemli, no. 6, 1966, 109-111

TOPIC TAGS: seismic prospecting, geophysics conference, seismic wave, ultrasonic equipment

ABSTRACT: A seminar on problems related to multiple reflected waves in seismic prospecting was held in Krasnodar in November 1965 under the auspices of the USSR Ministry of Geology, the All-Union Scientific Research Institute of Geophysical Prospecting Methods (VNIIGeofizika), the Institute of the Physics of the Earth (IFZ AN SSSR), and the State Committee of the USSR Council of Ministers for Science and Technology. Major topics discussed were the status of work being carried out by the reflected-wave method in various areas of the USSR, and new improvements in field procedures and in apparatus for distinguishing and damping multiple waves.

A number of the papers presented evidence that intense multiple waves had been identified on seismograms obtained when using the MOV method (Western Siberia, Volga area, Ukraine, Kazakhstan, Krasnodarskiy Kray,

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UDC: 550.834.3

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ACC NR: AP6021410

Timan-Pechora Province, Azerbaydzhan, and other regions). Waves of this type, generally related to the presence of a water layer, had also been registered while seismic prospecting was being carried out in the Caspian and Black Seas. 5

Another portion of the session was devoted to discussion of the results of studies of the kinematic and dynamic characteristics of multiple waves and their comparisons with such single-wave characteristics as effective velocities, relative intensities, and wave-frequency spectra; they were carried out at the IFZ, the Lower Volga Institute of Geology and Geophysics (NVNIIGG), the Siberian Scientific Research Institute of Mineral Resources (SNIIGIMS), the Leningrad Division of the Institute of Mathematics (LOMI), and elsewhere. Results were also presented of studies of the special features of the velocity profiles of real media in which intense multiple waves occur (performed by the IFZ, NVNIIGG, VNIIGeofizika, Perm State University, and other institutions).

Papers by A. M. Yepinat'yeva of the IFZ and Yu. B. Zinger of the NVNIIGG dealt with the great dependence of the dynamic characteristics of multiple waves on the character of a major (sharp) discontinuity in a section and the variability of these characteristics with the area. Representatives from such groups as the NVNIIGG and the Kuybyshev Petroleum Geophysics

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ACC NR: AP6021410

Trust presented papers dealing with the regionalization of an area in accordance with multiple-wave peculiarities and the determination of optimum conditions for registering single waves against a background of multiple waves. The latter was achieved either by the experimental selection of conditions for wave registration or on the basis of theoretically calculated intensities of the single and multiple waves for known profiles. The work of the Volgograd expedition of the NVNIIGG, in which multilayered and thin-layered real media were considered, was commended as being especially noteworthy. 6

### Distinguishing Multiple Waves

At present, the methods most widely used to identify multiple waves are based on analyses of effective-velocity data. Papers by N. Ya. Kunin of the Kazakhstan Geophysical Trust and by T. L. Konrad of the Yakutsk Geological Administration described how statistical analytical methods had yielded more reliable and accurate results. A. K. Urupov and others (Perm University) developed and tested a parametric diagram technique for distinguishing multiple waves. Examples of areas where reliable wave identifications have been accomplished from kinematic criteria include the

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L 04464-57

ACC NR: AP6021410

Russian and Siberian platforms, the Caspian and Black Seas, and other regions in the USSR. 4

The seminar pointed out the major possibility for distinguishing multiple waves detected by vertical seismic profiling methods and synthetic seismograms.

The vertical profiling method developed by Ye. I. Gal'perin at the IFZ makes it possible to determine the nature of waves, in particular to identify single and multiple waves and to prepare simplified physical models of real media. The appropriate apparatus has now been built and put into mass production. A number of field organizations have used this simplified vertical seismic-profiling method and have obtained satisfactory results (Eastern Geophysical Trust, Ukrainian Geophysical Trust).

Papers by G. N. Gogonenkov of the Volga-Ural Branch of the VNI-Geofizika and O. K. Kondrat'yev (IFZ) and by a representative from Perm University dealt with the use of synthetic diagrams.

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L 04464-67

ACC NR: AP6021410

Suppression of Multiple Waves

The following methods of suppressing or damping multiple reflected waves and the detection of useful waves against a background of multiple waves were discussed at the seminar:

1. Frequency selection methods. Experimental and theoretical methods used at the IFZ to test the frequency selection method for damping multiple waves showed that in certain types of media it is possible to damp or reduce multiple reflections by a technique which is based on the different frequency spectra of single and multiple waves. In field testing the method in some regions where multiple waves are formed at the contacts of thick layers, good results were obtained with high-frequency filtration (N. V. Umperovich, western Siberia). In regions where the formation of multiple waves is associated with thin layers, there are some examples where the use of low-frequency filtration has been successful (B. M. Karasik in some areas of Krasnodarskiy Kray). In most areas, however, frequency selection has been ineffective.

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ACC. NR: AP6021410

2. Directional-mode and wave-generation methods (plane front used by I. I. Kharaz and others, grouped shots on long bases, directed and undirected modifications used by B. I. Bespyatov and V. G. Yurchenko, various polar groupings used by Yu. V. Lorenskiy). These methods are based on differences in apparent velocities and the degree of stability, depending on the area, of single and multiple waves. The largest amount of research using these methods has been performed by the NVNIIGG and the Ukrainian Scientific Research Mining Institute (UkrNIGRI). 6

3. Various methods of signal separation. Filters have been devised whose characteristics are identical in form and opposite in sign to the frequency characteristics of the upper layers in which most multiple waves are formed (Division of Marine Geophysical Work (OMGR) of the VNII-Geofizika, L. I. Kogan, I. K. Kondrat'yev, and others). Obviously, these will give the best results in seas and oceans. A method is being developed for the successive separation of signals using an electronic computer and an analog device, which does not require prior knowledge of the section and useful signals (S. A. Nakhamkin of Leningrad State University). Noises (multiple waves) with known apparent velocities are being separated out from seismographic observations. These methods for damping multiple waves have still not been tested experimentally.

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ACC NR: AP6021410

4. Use of electronic computers in solving inverse dynamic problems. Work of this sort has just begun at the IFZ, LGU, VNIIGeofizika, and the Institute of Geophysics of the Ukrainian Academy of Sciences. The distinguishing feature of this method is that multiple and single waves need not necessarily be different in character, and multiple waves should also be taken from the recording.

5. New methods of suppressing multiple waves now being developed and used outside the Soviet Union. The basic idea is multiple overlapping, or common points and radiational filtration, accomplished by using special apparatus with magnetic registration. The principle features of these methods are: summing of a large number of traces, carrying out observations far from the source, and the establishment of special conditions favoring for the most part, the magnification of single waves. These methods involve the use of several criteria, which differ for multiple and single waves in direction of arrival, spectral composition, and degree of wave stability by area. The use of not one, but several criteria, even when they are weak, obviously makes it possible to achieve significant damping of multiple waves.

A communication from I. M. Ryabchenko of the Saratov Special Design Bureau (SKB) indicated that he has completed work on an apparatus

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ACC NR: AP6021410

which makes possible observations by the multiple-overlap method. Certain theoretical problems in this method were discussed in a paper by V. I. Mezhiboy ("Krasnodarneftegeofizika" Trust). In a paper by the IFZ, AN SSSR, a positive example was presented of the combined use of frequency selection and summation of waves on long bases (with time delays) for the suppression of multiple waves.

The resolutions of the seminar pointed out that, even though research on multiple waves has been greatly expanded during the last few years, results obtained are still unsatisfactory, with the following problems still needing attention:

1. Inadequate instrumentation (inadequate supply and slow production of new instruments: individual experimental instruments developed by one organization and even after considerable time still unavailable for use by other organizations—including, for example, vertical-profiling apparatus, ultrasonic borehole logging equipment, apparatus used for signal separation, etc.).
2. Scientific research is too limited in scope and variety of approaches. Information concerning new apparatus, procedures, and theoretical developments at various USSR organizations is poorly organized.

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L 04464-57

ACC NR: AP6021410

The seminar recommended that geophysical organizations concentrate their efforts on solving the following problems:

1. Dynamic interpretation of seismic fields (IFZ, LOMI, LGU, the Volga-Ural Branch of VNIIGeofizika):

- a) Development of methods of calculating the fields of multiple waves in layered media;
- b) Development of methods of constructing synthetic seismograms;
- c) Search for methods of making more precise models of media used for dynamic calculations;
- d) Development of techniques for comparing experimental dynamic characteristics with calculated ones.

2. Distinction of multiple waves:

- a) Further the development and use of the vertical-profiling method (IFZ, Volgograd and Krasnodar Petroleum Geophysical Organizations);
- b) Further the development of methods of distinguishing multiple waves by kinematic factors (Perm University);

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ACC NR: AP6021410

c) Application of the RNP (controlled-direction reception) method to the problem of distinguishing and identifying multiple and useful waves (Moscow Institute of Petroleum Chemistry and Gas Industry-MINKh GP).

3. Suppression of multiple waves:

a) Development of the method of successive noise separation (LGU, Eastern Geophysical Trust);

b) Development of procedures for the method of multiple overlapping (VNIIGeofizika, NVNIIGGR, Krasnodar and Lower Volga Scientific Research Institute of Geological and Geophysical Prospecting-NVNIIGGR) and the apparatus for this method (Saratov Special Construction Bureau-SKB);

c) Development of methods of solving the inverse dynamic problem using electronic computers (IFZ, VNIIGeofizika);

d) Development of methods of suppressing multiple waves at sea (OMGR VNIIGeofizika, Azerbaydzhan Branch of VNIIGeofizika);

e) Development of the method of the plane front and controlled plane front (Ukrainian NIGRI, NVNIIGGR).

A resolution was passed at the seminar that these papers be published.

SUB CODE: 08 20 / SUBM DATE: none  
Card 10/10

1. YEPINUS, F.U.T.
2. USSR (600)
4. Science
7. Theory of electricity and magnetism. Ed. 1 prin. A. G. Dorfmana. Leningrad, 1951.
9. Monthly List of Russian Accessions, Library of Congress, January, 1953. Unclassified.

YEPINUS, F.U.T.

Magnetism

Yepinus' selected works on the theory of electricity and magnetism. Theory of electricity and magnetism. Edited by Prof. YA. G. Dorfman. D. R. Elektrichestvo No. 5, 1952.

Monthly List of Russian Accessions. Library of Congress. November 1952 UNCLASSIFIED

VEYTSMAN, Natan Rakhmil'yevich; YEPIRANOV, M.P., red.; YERKHOVA, Ye.A.,  
tekhn.red.

["Iron heel's" balances today; balances of U.S.A. monopolies  
in 1959-1961] Balansy "zheleznoi piaty" segodnia; balansy  
monopolii SShA v 1959-1961 gg. Moskva, Izd-vo IMO, 34 p.  
(MIRA 15:5)

(United States--Trusts, Industrial)  
(United States--Financial statements)

1.12015-65 EMT(m)/EPF(c)/EWD(j)/T H-4/Pr-4 ASD(m)-3 PM  
 ACCESSION NR: AP1046467 5/0032/64/030/010/1222/1224

AUTHOR: Voyutskiy, S. S.; Yagnyatinskaya, S. M.; Frumkin, L. E.;  
 Yopiseyeva, S. N.; Rayevskiy, V. G.

TITLE: Method for determining the adhesion of polymers to powder fillers

SOURCE: Zavodskaya laboratoriya, v. 30, no. 10, 1964, 1222-1224

TOPIC TAGS: adhesion, polymer, filler, powder filler, sodium butadiene rubber, nitrite rubber, chalk, chemical black

ABSTRACT: A new method has been developed for determining the adhesion of polymers to any powder filler. The method is based on the use of substrates prepared from mixtures of various amounts of a powder filler with a binder. The surface of the substrate must be mechanically pretreated and cleaned to ensure close contact between the filler particles and the polymer. The adhesion of the polymer to the pure filler was determined by graphic extrapolation of experimental curves of adhesion values versus filler content. The results of experiments conducted with: 1) sodium buta-

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L 12015-65

ACCESSION NR: AP4046467

diene (CKB-35) rubber as the polymer and mixtures of poly(vinyl alcohol) (binder) and chalk (inactive filler) as the substrate, and 2) with nitrite (CKN-40) rubber as the polymer and mixtures of poly(vinyl alcohol) (binder) and chemical black (active filler) as the substrate are given in Figs. 1 and 2 of the Enclosure. The dotted lines are the curve sections extrapolated to a zero binder content. Their intersections with the ordinate indicate the adhesion of the polymer to the pure filler.

ASSOCIATION: Moskovskiy institut tonkoy khimicheskoy tekhnologii im. M. V. Lomonosova (Institute of Fine Chemical Technology)

SUBMITTED: 00

ENCL: 02

SUB CODE: GC

NO REF SOV: 003

OTHER: 004

ATD PRESS: 3124

Card 2/4

1. 12015-55  
ACCESSION NR: AP4046467

ENCLOSURE: 01

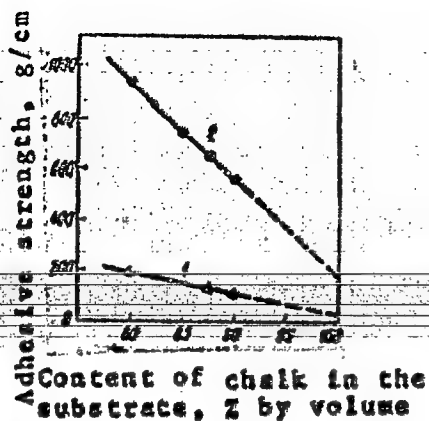


Fig. 1. Adhesive strength of CKB-35 to substrate depending on its chalk content

1 and 2 - adhes. joints prepared at 20 and 70°C, respectively.

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L 12015-65  
ACCESSION NR: AP4046467

ENCLOSURE: 02

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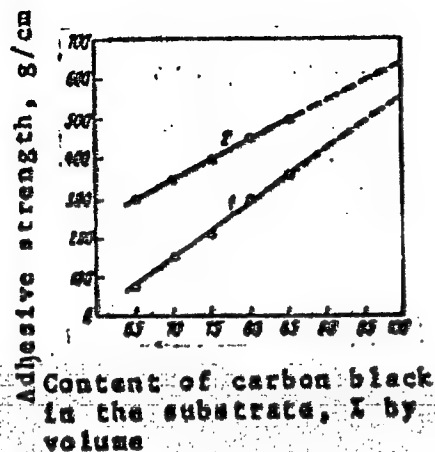


Fig. 2. Adhesive strength of CKH-40 to substrate depending on its carbon black content

1 and 2 - adhesive joints prepared at 20 and 70C, respectively.

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L 1447-66 EWT(m)/EPF(c)/EWP(j) RH

ACCESSION NR: AP5022591

UR/0190/65/007/009/1504/1509  
678.01:53

AUTHOR: Rayevskiy, V. G.; Yagnyatinskaya, S. M.; Yepiscyeva, S. N.; Voyutskiy, S. S.

TITLE: Tear resistance of filled rubber mixtures and adhesion of elastomers to fillers as a function of elastomer-filler contact time and temperature

SOURCE: Vysokomolekulyarnyye soyedineniya, v. 7, no. 9, 1965, 1504-1509

TOPIC TAGS: filler, elastomer, adhesion, adhesion strength

ABSTRACT: A comparative study has been made of the effect of the molding time and temperature of filled elastomers on their tear resistance, and of the effect of compression time and temperature on elastomer-to-filler adhesion, which was determined by a method developed by the authors (S. S. Voyutskiy, et. al. Zavodsk. lab. 1964, no. 10, 1222). The experiments were conducted with nitrile (SKN-40) and sodium butadiene (SKB-35) rubbers, and such fillers as chalk or channel black. It was shown that there exists a correlation between tear resistance and elastomer-to-filler adhesion. This correlation has confirmed the authors' idea that the tear

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L 1147-66

ACCESSION NR: AP5022591

resistance of filled systems is determined by elastomer-to-filler adhesion strength.  
Orig. art. Has: 7 figures. [BO]

ASSOCIATION: Moskovskiy institut tonkoy khimicheskoy tekhnologii im. M. V. Lomono-  
sova (Moscow Institute of Fine Chemical Technology); Moskovskiy tekhnologicheskiy  
institut myasnoy i molochnoy promyshlennosti (Moscow Technological Institute of the  
Meat and Dairy Industry)

SUBMITTED: 19Sep64

ENCL: 00

SUB CODE: MT

NO REF SOV: 006

OTHER: 001

ATD PRESS: 4097

Card 2/2

YEPISHEV, A., general armii

We should resolutely carry out the policy of the Communist  
Party in the Armed Forces. Komm.Vooruzh.Sil 3 no,19:7-15  
0 '62. (MIRA 15:9)

1. Nachal'nik Glavnogo politicheskogo upravleniya Sovetskoy  
armii i Voenno-morskogo Flota.  
(Russia--Armed forces)

ACC NR: AN7006288 (N) SOURCE CODE: UR/9008/67/000/046/0002/0002

AUTHOR: Yepishev, A.A. (General of army)

ORG: none

TITLE: Army General A.A. Yepishev on Soviet defenses

SOURCE: Krasnaya zvezda, no. 46, 23 Feb 67, p. 2, col. 1-4

TOPIC TAGS: military status, military policy

ABSTRACT: General Yepishev describes improvements in the Soviet Armed Forces, criticizes China, whose position he says is helping US imperialism, says that the USSR will continue to help Vietnam, and states that the Soviet Armed Forces possess everything to assure the inviolability and safety of the USSR and the Socialist countries. [NC]

SUB CODE: 15/ SUBM DATE: none/ ATD PRESS: 5115

Card 1/1

UDC: none

YEPISEV, Aleksey Alekseyevich, general armii; BARASHKOV, G.T.,

red.

[A matter of great importance; some problems of military  
patriotic education] Delo ogromnoi vazhnosti; o nekotorykh  
voprosakh voenno-patrioticheskogo vospitaniia. Moskva,  
Izd-vo "Znanie," 1965. 22 p. (MIRA 18:3)

KHLUDENEV, A.I., inzh.; YEPISHEV, B.P., inzh.

The S-881 duster and sprayer. Zashch. rast. ot vred. 1 bol. 4  
no.2:49-50 Mr-Ap '59. (MIRA 16:5)

(Spraying and dusting equipment)

YEPISHNEV, L.V.

YEPISHNEV, L.V.

Rocking of suspended centrifuges. Sakh. prom. 31 no.10:60-64 0 '57.  
(MIRA 11:1)

1. Nauchno-issledovatel'skiy institut khimicheskogo mashinostroyeniya.  
(Centrifuges)



YEPISHEV, L.V., aspirant

Vibration of gyroscopic systems caused by external intermittent actions. Nauch.dokl.vys.shkoly; mash.i prib. no.1:200-209 '58.  
(MIRA 12:1)

1. Predstavleno Nauchno-issledovatel'skim institutom khimicheskogo mashinostroyeniya.  
(Gyroscope--Vibration)

YEPISHEV, L. V., Candidate of Tech Sci (diss) -- "Investigation of the dynamics of centrifuges and of separators with flexible supports". Moscow, 1959. 16 pp (Min Higher Educ USSR, Moscow Inst of Chem Machinebuilding), 150 copies (KL, No 20, 1959, 112)

YEPISHEV, L.V.

Dynamic instability of a rotating wheel in case of incomplete filling  
with liquid. Nauch. dokl. vys. shkoly; mash. i prib. no.2:66-74 '59.  
(MIRA 12:12)

(Rotors)

20162

S/184/60/000/006/007/012  
A104/A130

13.2520

AUTHOR: Yepishev, L. V., Candidate of Technical Sciences

TITLE: Investigation of gyroscope separator oscillations taking into account the dry friction in elastic support

PERIODICAL: Khimicheskoye mashinostroyeniye, no. 6, 1960, 28-31

TEXT: The author stresses the importance of correct evaluation of the performance of elastic supports and states that all irregularities of their springs can be summarized either as opposed or as perpendicular to each other. In the former case the shaft oscillates towards the shorter or less tight spring according to

$$S = \frac{(\Delta_1 - \Delta_2)K'}{2K' - Q_{12}} \approx \frac{\Delta_1 - \Delta_2}{2}, \quad (1)$$

in which  $K'$  symbolizes the characteristic of one spring. Analogous oscillation takes place in springs of equal tightness and varying elasticity  $K_1$  and  $K_2$  expressed by

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A104/A130

Investigation of gyroscope separator...

$$s = \frac{(K_1 - K_2) \Delta}{K_1 + K_2 - Q_1^2} \approx \frac{K_1 - K_2}{K_1 + K_2} \Delta. \quad (2)$$

With irregular perpendicular elasticity the shaft remains in a vertical position. Critical speeds are expressed in Equations (4) and (5). Statements of some authors [Dimentberg, F. M. - Ref. 2: Isgibnyye kolebaniya vrashchayushchikhsya valov (Bending vibrations of rotating shafts), Izd-vo AN SSSR, 1958; Tonal, A., Svutt, K. - Ref. 3: K otázce nebezpečnosti kmitů rotorů (Concerning dangerous rotor vibrations), "Strojírenství", no. 9, Sep, Praha, 1959] that the precise movement of the shaft at angular velocity is equal to the rotation speed but in the opposite direction is possible between  $\omega_1$  and  $\omega_2$ , appeared according to the report of the NIIKHIMMASH (All-Union Design and Scientific Research Institute of Chemical Machinery) 1959, on the theme 4202 "Research on Dynamics of Centrifuges and Separators with Elastic Supports" ill founded. The summary dry friction power equals  $F = K\Delta f = 3K'\Delta f$ . The direction of the effective force in elastic support during shaft motion is shown in Figure 2. Its moment of force in relation to coordinates ON and OK (Fig. 3) is  $L_N = F l_1 \sin \psi$ ;  $L_K = F l_1 \cos \psi$ . The dry friction does not eliminate

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S/184/60/000/006/007/012  
A104/A130

# Investigation of gyroscope separator...

the tendency to unlimited increase of oscillation amplitudes during the stationary operation at the critical speed. However, pure dry friction is rare and in case of joint action of viscous and dry frictions the latter has a considerable effect on the oscillation amplitude at the critical speed. At prevalent dry friction in elastic support and the inequality of  $F > m \omega_{cr}^2$  there is no shaft deviation and the system becomes equivalent to one with two elastic supports. Dry and viscous friction force is determined by oscillographs according to Formula

$$F = \frac{(Kl_1^2 - Ql_1) [(a_1 + a_2) - (a_3 + a_4)]}{4l_1 l_1'}$$

Theoretical resonance curves illustrating the influence of different types of friction on the oscillation of the model are shown in Figure 4, and the resonance characteristics of centrifuge at varying tightness of elastic support in Figure 5. A complete displacement of the rotor is caused by a deviation on the elastic support and deflection of the shaft itself. To ensure maximum damping of oscillation, the elastic support should be placed as close to the rotor as possible. As shown in Figure 4, damping occurs only at near critical speeds whereas at  $\omega > 1.5 \omega_{cr}$  [Abstracter's Note: designation or (critical) is the translation from the Russian  $\kappa_p$  (kriticheskaya)] the friction

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20162

S/184/60/000/006/007/012  
A104/A130

Investigation of gyroscope separator...

has no effect on the value of the oscillation amplitude. Although increased, dry friction of elastic supports decreases the amplitudes of the natural oscillation providing there is a quantity of free surface liquid in the rotor, in which case their complete elimination requires more effective measures [Yepishev, L. V. - Ref. 5: O kolebaniyakh tsentrifug i separatorov s uprugoy oporoy (Vibrations of centrifuges and separators with elastic supports), "Trudy NIIKhIMMASH" no. 29, 1959; Yepishev, L. V. - Ref. 6: O dinamicheskoy neustoychivosti vrashcheayushchegosya rotora s zhidkost'yu (Dynamic instability between a rotating rotor and a liquid), "Nauchnoye doklady vysshey shkoly, Mashinostroyeniye i priborostroyeniye", no. 2, 1959]. There are 5 figures and 6 references: 5 Soviet and 1 Czechoslovakian.

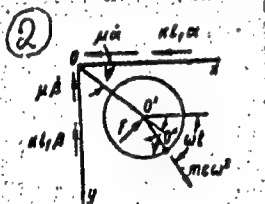


Figure 2:

Direction of effective force in elastic support during shaft motion

Card 4/4

YEPISHEV, L.V., inzh.

Vibrations of suspended centrifuges and separators with a flexible  
support. Trudy NIIKHIMMASH no. 29:86-106 '59. (MIRA 14:5)  
(Centrifuges—Vibration) (Separators (Machines)—Vibration)



YEPISHEV, L.V., inzh.

Calculating critical speeds for separators. Trudy NIIKHIMMASH  
no. 29:107-116 '59. (MIRA 14:5)  
(Separators (Machines))

NOVIKOV, S.S.; SLOVETSKIY, V.I.; BELIKOV, V.M.; ZAVILOVICH, I.M.;  
YEPISHINA, L.V.

Spectrophotometric study of dissociation constants of  
1,1-dinitropentane, 1,1-dinitrohexane, and 1,1-dinitrodecane.  
Izv.AN SSSR.Otd.khim.nauk no.3:520-523 Mr '62. (MIRA 15:3)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR.  
(Nitro compounds) (Ionization) (Spectrophotometry)

YEPISHEV, V.A.; BUSYGINA, M.V.

First Republic Scientific Conference of Stomatologists and  
Dentists of the Uzbek S.S.R. Stomatologiya 43 no.1:107-109  
Ja-F'64 (MIRA 17:4)

YEPISHEV, V.A.

Over-all treatment of chronic recurrent aphthous stomatitis.  
Izv. AN Uz. SSR. Ser. med. no. 5:47-51 '59. (MIRA 13:3)

1. Tashkentaskiy gosudarstvennyy meditsinskiy institut.  
(THRUSH(MOUTH DISEASE))

L 15486-63

EWB(j)/EPF(o)/ENT(m)/BDS

Pc-4/Pr-4 RM/WW

ACCESSION NR: AP3005445

S/0204/63/003/004/0465/0471

AUTHORS: Petrov, Al. A.; Sanin, P. I.; Tsedilina, A. L.;  
Bagriy, Ye. I.; Yepishev, V. I.

67  
66

TITLE: Synthesis and properties of C sub 24-hydrocarbons

SOURCE: Neftekhimiya, v. 3, no. 4, 1963, 465-471

TOPIC TAGS: C sub 24-hydrocarbon synthesis, hydrocarbon structure,  
naphthene

ABSTRACT: The following 24 new C<sub>24</sub>-hydrocarbons, containing varied structures including 5- and 6-membered naphthene rings of different degrees of substitution were synthesized and described. 10-cyclopentyl-nonadecane; 1-methyl-2-octadecylcyclopentane; 1,7-dicyclopentyl-4-heptylheptane; 1,7-di-(3-methylcyclopentyl)-4-amylheptane; 1,10-di-(2,4-dimethylcyclopentyl)-decane; 1,7-dicyclopentyl-4-(8-ethylcyclopentyl)-heptane; 1-phenyl-4-hexyl-7-cyclopentylheptane; 1-cyclohexyl-4-hexyl-7-cyclopentylheptane; 7-(4-cyclopentylphenyl)-tridecane; 7-(4-cyclopentylcyclohexyl)-tridecane; 1,7-dicyclopentyl-4-benzyl-

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ACCESSION NR: AP3005445

heptane; 1,7-dicyclopentyl-4-methylcyclohexylheptane; 6-(2,4,5-trimethylphenyl)-pentadecane; 6-(2,4,5-trimethylcyclohexyl)-pentadecane; 1-phenyl-3-(2,5-dimethylbenzyl)-nonane; 1-cyclohexyl-3-(2,5-dimethylmethylcyclohexyl)-nonane; 1,1-di-(4-isopropylphenyl)-hexane; 1,1-di-(4-isopropylcyclohexyl)-hexane; 1,1-di-(2,4,5-trimethylphenyl)-hexane; 1,1-di-(2,4,5-trimethylcyclohexyl)-hexane; 1,3-di-(5-indanyl)-2-propylpropane; 1,3-di-(5-hydrindanyl)-2-propylpropane; 1-phenyl-4-(2-dodecyl)-benzene; 1-cyclohexyl-4-(2-dodecyl)-cyclohexane. "Synthesis (of 1,3-di-(5-indanyl)-2-propylpropane) carried out by L. N. Stuk-anov". Orig. art. has: 29 formulas.

ASSOCIATION: None

SUBMITTED: 00

DATE ACQ: 06Sep63

ENCL: 00

SUB CODE: CH

NO REF SOV: 008

OTHER: 007

Card 2/2

STUKANOVA, L.N.; ZHDANOVA, N.V.; YEFISEV, V.I.; PITLOV, A.I.A.

Synthesis and properties of the hydrocarbons of the dicyclopentyl series. Neftekhimia 4 no.4:521-529 J1-Ag '64. (MIRA 17:10)

1. Institut geologii i razrabotki goryuchikh iskopayemykh.

ACCESSION NR: AP4044551

S/0204/64/004/004/0521/0529

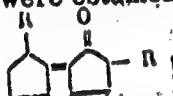
AUTHOR: Stukanova, L. N., Zhdanova, N. V., Yepishov, Vi. I., Petrov, Al. A.

TITLE: Synthesis and properties of hydrocarbons of the dicyclopentyl series

SOURCE: Neftekhimiya, v. 4, no. 4, 1964, 521-529

TOPIC TAGS: hydrocarbon, dicyclopentyl, self-condensation, ketone, alkylation, aldehyde, 2-alkylcyclopentanone, 2-alkyl-5-(2-alkylcyclopentylidene)-cyclopentanone

ABSTRACT: Thirteen homologs of dicyclopentyl, with 11-24 C atoms, were synthesized with special regard to the polysubstituted dicyclopentyls, the presence of which in crude oils is very probable. For the synthesis of dicyclopentyl derivatives, the well-known self-condensation of cyclopentanone was used resulting in 2-cyclopentylidencyclopentanone. From this ketone a series of homologs of dicyclopentyl with different radicals having 1-14 C atoms were obtained. Then, by self-condensation of 2-alkylcyclopentanones, ketones of the type



(where R = C<sub>1</sub>H<sub>3</sub>, C<sub>2</sub>H<sub>5</sub>, C<sub>3</sub>H<sub>7</sub>).

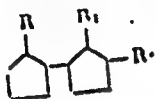
were obtained, which were converted directly or by the Grignard reaction to hydrocarbons

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ACCESSION NR: AP4044551

of the type:



The 2-alkylcyclopentanones necessary for the reaction were obtained by alkylation of cyclopentanone with aldehydes (propionic, butyric and enanthic). The properties and names of the synthesized hydrocarbons are tabulated. The Grignard reaction was carried out with both unsaturated ketones and a saturated ketone-cyclopentylcyclopentanone. With unsaturated ketones, the yield of tertiary alcohols was much higher. The chromatogram of 1-methyl-2-cyclopentylcyclopentane, obtained by the reaction of methyl-magnesium iodide with both unsaturated and saturated ketones, is given. In both cases, the identical mixture of trans and cis-1-methyl-2-cyclopentylcyclopentanes were obtained. Initial products for the preparation of 1-tetradecyl-2-cyclopentylcyclopentane were cyclopentylidenecyclopentanone (b.p. 127-128C/17 mm Hg,  $n_D^{20} = 1.5210$ ; 99% ketone) and tetradecyl bromide (b.p. 178-179C/22 Hg,  $n_D^{20} = 1.4596$ ). The yield was 38%. 1-methyl-1-ethyl- and 1-hexyl-2-cyclopentylcyclopentanes were prepared in an analogous manner in yields of 25, 18 and 10%, respectively. The preparation of 2-alkylcyclopentanones by alkylation of cyclopentanone with aldehydes is more advantageous and gives better results than the

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ACCESSION NR: AP4044551

earlier method involving alkylation of the sodium derivative of carbethoxycyclopentanone by alkyl halides with subsequent ring opening and cyclization of the alkyl adipic acids. The alkylation with enanthol, yielding 2-heptylcyclopentanone; and the alkaline self-condensation of 2-butylcyclopentanone are given as model reactions. The properties of the heptyl-, propyl- and butyl-cyclopentylidene cyclopentanones are tabulated, and self-condensation of alkylpentanones is described in detail. The chemical pathway of the preparation of hydrocarbons of the type 1-alkyl-3-(2-alkylcyclopentyl)-cyclopentane is given, and the preparation of 1-propyl-2-(3,4-dimethylcyclohexyl)-3-(2-propyl cyclopentyl)-cyclopentane is described in detail. A fraction boiling at 174-175C was obtained from the resulting product by fractional distillation. Orig. art. has: 2 figures, 3 tables and 2 chemical equations.

ASSOCIATION: Institut geologii i razrabotki goryuchikh iskopayemykh (Institute of Geology and the Development of Fossil Fuels)

SUBMITTED: 20Dec63

ENCL: 00

SUB CODE: OC

NO REF SOV: 004

OTHER: 010

Card 3/3

YEPISHEVA, A.V., MILLER S.V. , DYMCHENKO, V.N. AND LICHTENSHEIN, A .D.

"Prophylaxis of Manganese Poisoning in Steel Foundries."

[Gigiena] No. 1, 26-29, Jan., 1950.

Periodical examination of the personnel working in a steel foundry showed that a considerable percentage of the workers were suffering from manganese poisoning. The usual clinical manifestations were general debility, back-ache in the limbs.

It was found that the air of all the compartments of the foundry was to a certain degree contaminated with manganese. The following recommendations were therefore made.

Thorough and direct ventilation should be installed above the places where manganized steel is heated. The roofs of the foundry buildings must be high up and walls provided with sufficient windows to promote air movement. The chimneys should be built sufficiently high to secure ventilation by this route. Periodical examination of the personnel of the foundry is necessary to detect early cases of manganese poisoning.

E.W. Collis

Abstracts of World Medicine. Vol. 8, 1950.

YETUSHOVA, M. I., MILLER, S. V., DYMOHENKO, V. N. and LIKHTEINSTEIN, S. D.  
Prevention of manganese poisoning in steel foundries Gigiyena i Sanitariya, Moscow 1950,  
1 (26-29) Tables 1

SO: Medical Microbiology & Hygiene, Section IV, Vol. 3, No. 7-12

GEL'PERIN, N.I.; PEBALK, V.L.; ROZOV, V.N.; ZAMYSHLYAYEV, V.G.; SOKOLOVA,  
T.O.; MILOVANOV, I.B.; YEPISHEVA, M.S.

Fractional reextraction of metals from complex metal soaps.  
TSvet.met. 38 no.10:41-49 0 '65.

(MIRA 18:12)

ACCESSION NR: AR4032170

S/0058/64/000/002/G014/G014

SOURCE: Ref. zh. Fiz., Abs. 2G95

AUTHORS: Artamonov, A. A.; Goryachev, V. N.; Yepisheva, P. G.

TITLE: Determination of the concentrations of free sodium atoms on the cathode of a dc carbon arc

CITED SOURCE: Dokl. VI Nauchn. konferentsii Novokuznetskogo ped. in-ta po fiz.-matem. naukam. Novokuznetsk, 1963, 103-105

TOPIC TAGS: sodium atom concentration, dc carbon arc, free sodium on cathode, cathode sodium deposit, arc plasma contamination, spectral analysis

TRANSLATION: The formation of free Na on the cathode of a dc carbon arc was investigated. Samples with different NaCl content were placed in a hole in the anode. The cathode was sharpened to a cone.

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ACCESSION NR: AR4032170

The distance between the electrodes was maintained constant. It is established that the concentration of sodium deposited on the cathode depends on the NaCl content in the anode, the arc current, and the time of its combustion. The sodium penetrates into the cathode to a depth 1--1.5 mm, and with increasing arc combustion time and arc current it begins to enter the arc plasma, something that must be allowed for when performing a spectral analysis. Z. Kobina.

DATE ACQ: 31Mar64

SUB CODE: PH

ENCL: 00

Card 2/2 .

YEPISHIN, A.

Sugar beet growing in the U.S.A. Sakh.prom. 36 no.4:69 Ap '62.  
(MIRA 15:5)

(United States—Sugar beets)



COMMON ELEMENTS										OPEN										MATERIALS MORE										METALLURGICAL LITERATURE CLASSIFICATION										E-2																																																																																									
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<p>Cleaning of raw juice heaters with unfiltered juice from the first carbonation. A. S. Epishin. <i>Sukharovskaya Prom.</i> 20, No. 4, 31 8(1917). (Hand cleaning of heaters can be completely eliminated by using unfiltered first carbonation juice and pumping it for 4 to 6 hrs. through the heater. An operation of scheme is shown. V. K. Baikov</p>																																																																																																																																	
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YEPISHIN, H.S.

Continuous (beet) diffusion plants (in Russia). A. S. Epishin  
(Soviet Press 1953 No. 6 14-18) — A patent is given for certain  
Russian developments with drum and tower diffusers.

corrosion pits; the beet juice contained large amounts of pulp  
and coarseness which had to be filtered out. When pressed beet  
pulp (up to 12% dry solids) was conveyed to pits by means of  
compressed air, the pit was kept dry, and the fodder value of the  
pulp improved. The performance of the Kondshalvan four-tower  
plant is illustrated and a flow diagram is given.

YEPISHIN, A.S.

Let's obtain an abundance of sugar in our country. Sakh.prom. 27 no.9:3-6  
'53. (MIRA 6:11)

1. Glavnoye upravleniye sakharnoy promyshlennosti. (Sugar industry)

YEPISHIN, A.S.

~~SECRET~~  
Sugar factory repair. Balch.prom. 27 no.9:28 '53.

(MLRA 6:11)  
(Sugar industry)

YEPISHIN, A.S.

Thorough mechanization of time-consuming and strenuous work, Sakh.  
prom. 28 no.2:9-16 '54. (MLRA 7:4)

1. Glavsakhar.

(Sugar industry)

VOSTOKOV, Aleksey Ismaylovich; LIMPESHKIN, Ivan Pavlovich; YEPISHIN, A.S.,  
inzhener, ratsenzent; SEAPIRO, A.B., inzhener, spetsradaktor;  
KHOMEL'NITSKAYA, A.Z., redaktor; CHEBYSHEVA, Ye.A., tekhnicheskij  
redaktor.

[Producing sugar from beets] Proizvodstvo sakhara iz svekly.  
Moskva, Pishchepromizdat. No.2. [Extracting juice from beets]  
Poluchenie soka iz svekly. 1955. 65 p. (MIRA 9:6)  
(Sugar beets)

VOSTOKOV, Aleksey Izmaylevich; LEPESHKIN, Ivan Pavlevich; YERISHIN, A.S.,  
inzhener, retsentsent; KIMEL'NITSKAYA, Kh.Z., redaktor; CHEBYSEVA,  
Ye.A., tekhnicheskiiy redaktor.

[Production of sugar from beets] Proizvodstvo sakhara iz svekly.  
Moskva, Pishchepromizdat. №.1 [ General description of the sugar  
beet industry] Obshcheye opisanie sveklo-sakharnogo proizvodstva.  
1955. 102 p. (Sugar industry) (MIRA 9:5)

YE PISHIN, A.S.  
PARSHIKOV, M. Ya.; MAKHINYA, M. M.; SILIN, P. M.; YAPASKURT, V. V.; YE PISHIN, A. S.;  
SHAKIN, A. N.; ZHIDKOV, A. A.; KHELEMSKIY, M. Z.; KARTASHOV, A. K.; BENIN, G. S.  
LEPESHKIN, I. P.; KRASNYYUK, G. M.; ZHVIRKO, I. S.; ZELIKMAN, I. F.; KHEYZE, N. V.

Birthday of P. V. Golovin. Sakh. prom. 29 no. 5: 7 '55. (MLMA 8:11)  
(Golovin, Pavel Vasil'evich, 1880-)



YAPASKURT, V.V.; YEPISHIN, A.S.; SHAKIN, A.N.; SILIN, P.M.; ZHIDKOV, A.A.;  
KHELEMSKIY, M.Z.; SHEMYAKIN, P.N.; NOVIKOV, V.A.; POPOV, V.D.; BENIN,  
G.S.; NAYDENOV, A.K.; KURBATOVA, V.S.; KARTASHOV, A.K.; YARMOLINSKIY,  
A.K.; ZIBOROV, D.K.; VAYSMAN, M.L.; ZAMBROVSKIY, V.A.; SVYATENKO, M.M.

IULii Markovich Zhvirblianski; obituary. Sakh.prom.29 no.6:48 '55.  
(Zhvirblianski, IULii Markovich, 1894-1955) (MIRA 9:1)

VOSTOKOV, A.I.; LEFESHKIN, I.P.; YEPISHIN, A.S., inzhener, retsenzent;  
SHAPIRO, I.B., inzhener, spetsredakter; KHMEL'NITSKAYA, A.Z.,  
redakter; MUSTAFIN, A.M., tekhnicheskii redakter.

[Manufacture of beet sugar] Proizvodstvo sakhara iz svekly.  
Moskva, Pishchepromizdat (Uchebnoe posobie dlia podgotovki  
kadrov masseykh professii) no.4 [Heating and evaporation of  
the juice] Nagrevanie i vyparivanie soka. 1956. 38 p.  
(Sugar industry) (MIRA 9:6)

YEPISHIN, A.S.

In sugar plants in Denmark and Holland. Sakh.prom. 30 no.8:61-71  
Ag. '56. (MLRA 9:11)

1. Rosglavsakhar.

(Denmark--Sugar industry) (Holland--Sugar industry)

YEPISHIN, A.S.

Sugar refineries of Denmark and Holland. Sakh.prom.30 no.10:52-59  
0 '56. (MIRA 10:1)

1. Rosglavsakhar.

(Denmark--Sugar industry)

(Netherlands--Sugar industry)